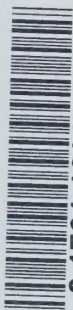


Mr. Gordon

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SUBMISSION TO THE

ROYAL COMMISSION ON ENERGY

BY

UNION GAS COMPANY OF CANADA, LIMITED
AND ITS SUBSIDIARIES

JULY 1958

PRESENT AND POTENTIAL NATURAL GAS
REQUIREMENTS IN MARKETS SERVED AND TO BE
SERVED BY UNION GAS COMPANY OF CANADA,
LIMITED AND ITS SUBSIDIARIES AND GENERAL
INFORMATION

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Present and Potential Natural Gas Requirements
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Gas Company of Canada, Limited and its
Subsidiaries and General Information



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UNION GAS COMPANY OF CANADA, LIMITED

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Present and Potential Natural Gas Requirements
in Markets Served and to be Served by Union Gas
Company of Canada, Limited and its subsidiaries
and general information

I

History and Operations of the Company
and its subsidiaries

Union Gas Company of Canada, Limited (Union) was incorporated under the laws of the Province of Ontario on December 11, 1911. Union and its subsidiaries are engaged in purchasing, producing, storing, transmitting and distributing natural gas in numerous municipalities in Southwestern Ontario. At the present time Union and its subsidiaries distribute gas directly to approximately 196,000 customers and also supply nominal volumes of gas to other distributors for re-sale. Operations are carried on in the following fifteen counties in Ontario, which are hereafter referred to collectively as the franchise area:

Essex
Kent
Lambton
Middlesex
Elgin
Huron
Perth
Waterloo
Oxford
Brant
Wellington
Haldimand
Norfolk
Halton
Wentworth

The present overall population of the franchise area is approximately 1,700,000. The map at tab 13 shows the extent and location of the main transmission lines of the companies and the

location of the major markets served. In all some 5,315 miles of gathering, storage, transmission and distribution lines (exclusive of service laterals) ranging up to 26 inches in diameter are owned and operated by the companies in addition to the extensive facilities required for the production, storage, compression and measurement of gas. The total gas plant facilities of the companies (exclusive of the properties of Hamilton By Product Coke Ovens, Limited) are carried on the books at a gross cost of approximately \$90,000,000 and are constantly being added to.

Union has the following subsidiary companies:

A - Wholly-Owned

- (i) City Gas Company of London
- (ii) Ontario Natural Gas Storage and Pipelines Limited

B - Partially-Owned

United Fuel Investments, Limited; a holding company with the following wholly-owned subsidiaries:

- (i) Hamilton By Product Coke Ovens, Limited
- (ii) United Gas Limited, of which company
United Suburban Gas Company, Limited is a
wholly-owned subsidiary.

The operations of the company and its various subsidiaries are referred to briefly as follows:

Union Gas Company of Canada, Limited:

Union owns all of the outstanding shares of City Gas Company of London and of Ontario Natural Gas Storage and Pipelines Limited. It also owns 89,902 of the outstanding 90,000 common shares of no par value (the voting stock) of United Fuel Investments, Limited. In addition to the common

shares United Fuel Investments, Limited also has outstanding 90,000 class "A" 6% cumulative redeemable preferred shares par value \$50 each, and 69,689 class "B" non-cumulative preferred shares, par value \$25 each, of which preferred shares none are owned by Union.

Union is engaged in the purchase, production and transmission of natural gas and in the distribution of natural gas to approximately 128,000 customers. In April, 1958, Union acquired all of the natural gas properties of Dominion Natural Gas Company, Limited in Ontario, exclusive of those situated in the counties of Lincoln and Welland, and the properties so acquired are incorporated into and being operated as part of the Union Company system.

City Gas Company of London:

This company is a distribution company engaged in the distribution of natural gas to approximately 25,000 customers in the City of London and in the Townships of Westminster and London in Middlesex County. City Gas Company of London purchases all of its requirements of gas for re-sale from Ontario Natural Gas Storage and Pipelines Limited.

Ontario Natural Gas Storage and
Pipelines Limited:

This company (Ontario Storage) was incorporated in 1953 as a wholly-owned subsidiary of Union in anticipation that the future large-scale gas storage and transmission activities contemplated could be carried out better through a separate company. Ontario Storage is engaged entirely in wholesale operations and does not make any direct sales to the public.

In December, 1957, Union sold to Ontario Storage its

underground storage facilities (including compressor station and base pressure gas) in Lambton County, and its 16" diameter pipeline, a compressor station and other facilities required to transport from a point on the Detroit River to the storage area, natural gas imported by Union from the United States. The majority of these facilities are also required to transmit gas from the storage area to Windsor and other markets during periods when sufficient gas to meet the requirements of those markets is not available from the United States. Ontario Storage also acquired from Union the latter's inventory of gas held in underground storage for current sale, certain inventories of materials and supplies and contracts for the sale and purchase of gas. All of the properties referred to were sold by Union to Ontario Storage at book value, being cost less applicable depreciation.

Ontario Storage has accepted an assignment from Union of an agreement between Trans-Canada Pipe Lines Limited and Union Gas Company of Canada, Limited, as amended, dated January 18, 1955 under the terms of which Union agrees to purchase from Trans-Canada annual volumes of natural gas ranging up to 64 billion cubic feet for a primary term of 20 years from the date of first deliveries of gas under the contract. Deliveries of gas under this contract are to be made to Ontario Storage at a point near Oakville. The larger portion of the gas will be received in the summer months and the excess over immediate requirements placed in underground storage. It is anticipated that deliveries of gas under this agreement will commence on or about November 1, 1959.

Ontario Storage has also agreed to purchase from Union all gas imported from the United States by Union under two contracts

between Union and Panhandle Eastern Pipe Line Company. The first of these contracts, which provides for the importation of 5.5 billion cubic feet per annum during the summer months still has approximately 12 years to run. The second contract, under which deliveries of gas commenced in November, 1956, provides for the delivery and receipt of increasing annual volumes of gas ranging up to 15.5 billion cubic feet in 1961 and subsequent years. Deliveries of gas under this second contract will cease one year after gas is available to Ontario Storage under the January 18, 1955, agreement with Trans-Canada.

Ontario Storage has completed contracts for the sale of gas on a wholesale basis with Union Gas Company of Canada, Limited, City Gas Company of London, United Gas Limited and the Public Utilities Commission of the City of Kitchener. A contract for the sale and purchase of gas had also been entered into with Dominion Natural Gas Company, Limited and that contract has now been assigned by Dominion to Union.

In addition to its operations of purchasing, storing and transmitting gas on its own account, Ontario Storage is also engaged in the storage, transmission and exchange of gas on behalf of other companies.

By agreement with The Consumers' Gas Company, Ontario Natural, for a service charge, will store gas for Consumers' Company. Under the terms of this agreement Ontario Storage will receive during the summer months at the eastern terminus of its 26" transmission line, gas owned by The Consumers' Company in excess of the daily requirements on its system and will transmit this gas to the underground gas storage pools

in Lambton County, where it will be stored for return to The Consumers' Company as required.

Under the terms of a gas exchange agreement, Ontario Storage, in consideration of a service charge, is lending limited quantities of gas to Trans-Canada Pipe Lines Limited for the purpose of market build-up in Eastern Ontario and the City of Montreal prior to the availability of Western Canada natural gas through the Trans-Canada pipeline for this purpose and, if required, until November 30, 1959. The agreement requires that gas lent to Trans-Canada be returned over a three-year period from the time Western Canada gas is available from Trans-Canada at the junction of the facilities of Ontario Storage and Trans-Canada.

United Fuel Investments, Limited:

This company does not carry out any operations but is entirely a holding company owning all of the outstanding capital stock of United Gas Limited and Hamilton By Product Coke Ovens, Limited.

United Gas Limited and United Suburban Gas Company, Limited:

United Gas Limited owns all of the capital stock of United Suburban Gas Company, Limited. These companies are engaged in the distribution of natural gas in the City of Hamilton, the Towns of Oakville, Burlington, Dundas, Georgetown, Milton and Acton and other areas in the Counties of Wentworth and Halton. At the present time these companies serve some 43,000 customers throughout their franchise areas. Prior to 1955 both companies were engaged in the distribution of manufactured gas but as supplies of natural gas became more

readily available, in that year a program of conversion to natural gas was commenced and by April of 1958 the entire service areas of both companies had been so converted.

Under the terms of a contract dated November 4, 1955, United Suburban Gas Company, Limited is purchasing substantial volumes of natural gas from Niagara Gas Transmission Limited. This gas is being utilized on the systems of United Gas Limited and United Suburban Gas Company, Limited.

As at December 2, 1957, United Gas Limited entered into a contract with Ontario Storage for a supply of gas for the systems of United Gas Limited and United Suburban Gas Company, Limited. The contract extends for a primary term of 20 years from January 1, 1958. When Western Canada gas is made available by Trans-Canada Pipe Lines Limited at the point of juncture of the facilities of Ontario Storage and Trans-Canada, receipts of gas under the contract of November 4, 1955 with Niagara Gas Transmission Limited will cease and thereafter, with the exception of a nominal volume of natural gas purchased locally, United Gas Limited and United Suburban Gas Company, Limited will receive their entire natural gas requirements from Ontario Storage.

Hamilton By Product Coke Ovens, Limited

This Company is engaged in the production of metallurgical coke and other by-products of coal at its plant situated on the harbour in the City of Hamilton. The manufacturing facilities of this Company were the main source of gas supply for the manufactured gas formerly distributed by United Gas Limited and United Suburban Gas Company, Limited. The coke manufacturing facilities of the Company will continue to operate to produce high

quality metallurgical coke to meet as far as possible the market demands for such coke.

During their immediately past fiscal years the combined natural gas sales of Union and its subsidiaries and of Dominion Natural Gas Company, Limited (manufactured gas sales of United Gas Limited and United Suburban Gas Company, Limited converted to natural gas equivalent) were approximately 21,900,000 M.C.F.

II

Future Expansion and Gas Requirements

During the fiscal year ended March 31, 1957 Union Gas Company of Canada, Limited and its subsidiaries spent on plant extensions and enlargements a total of

\$ 6,700,000

During the fiscal year ended March 31, 1958 those companies expended for that purpose

\$ 29,100,000

An appropriation has been made for such expenditures during the fiscal year ending March 31, 1959, of

\$ 18,000,000

The above expenditures and appropriation are in addition to the expenditure by Union in April, 1958, of approximately \$15,250,000 in the acquisition of properties of Dominion Natural Gas Company, Limited.

With the increased supplies of natural gas now assured to Union and its subsidiaries under the contracts already referred to and from local sources, both company-owned and under contract, those companies were able to raise the necessary capital required to construct the major portion of the facilities needed to deliver to and distribute in all markets served, under all contemplated operating conditions, the volumes of gas becoming available. This expansion program will continue to the extent necessary to reach all prospective customers within economic range of the companies' present and projected facilities, and as deemed feasible in the light of gas supplies available over a long term period.

Studies have been completed with a view to determining the ultimate possible annual gas demand in the companies' franchise areas (i.e., the 15 counties in which operations are now being carried on) over the next 30 years.

The attached schedules, tabs 1 to 11 inclusive, show the methods used and assumptions made in arriving at such annual estimates. Schedule 8 (column 4) shows the volumes of gas which might be required on the companies' systems while Schedule 11 indicates the peak days resulting from the handling of such volumes of gas.

The various schedules are now referred to and explained in limited detail as follows:-

Schedule 1

Actual and projected population of the 15 counties
in which operations are carried on by Union and its
subsidiaries

The estimates shown on Schedule 1 are a consolidation of those prepared for each of the 15 counties. The figures for the

periods 1931 to 1956 inclusive, are as published in the 1956 edition of Economic Survey of Ontario. The estimated future population of each of the counties was determined by a study of past population growths, by taking into consideration the division of the present population as between urban and rural, and the incidence of industrial and commercial activities. The general assumption was also made that in most counties, especially those which have shown a marked increase in population during recent years, the future percentage rate of population growth will be somewhat reduced from that experienced in recent years.

Schedule 2

Estimated population of, and number of possible residential gas outlets requesting service from Union Gas Company of Canada, Limited and its subsidiaries in, the 15 counties in which operations are carried on by the said companies

This schedule is based on the overall population estimates of 15 counties as indicated in Schedule 1. However, the possible gas service area population estimates reflect reductions from the overall population figures by -

- (a) the populations of certain urban areas served by other distributors in the counties in which Union and its subsidiaries operate or where, mainly for economic reasons, no gas is presently being served nor is such service contemplated by Union;
- (b) rural population not served or to be served by Union or its subsidiaries because the widespread distribution of such population does not warrant the extension of gas distribution systems to render service.

Column 5 of Schedule 2 shows the estimated population to be within the service area of Union and its subsidiaries, and on the basis of 3.5 persons per family, column 6 shows the estimated number of families to be within the service area.

The estimated number of residential meters to be on the lines of Union or its subsidiaries, as shown in column 8, represents the consolidation of estimates made for each of the 15 counties where operations are carried on. There is a wide variance in the present saturation of residential meters by counties because of the fact that natural gas service has been available for a great many years in some counties, for only a relatively short period or on a restricted basis in others, while in some instances natural gas service is only now being made available.

It is generally assumed, however, that if adequate supplies of gas are available, ultimately natural gas will be utilized to some degree by approximately 85% of the families in the service area (column 7). A few of the counties in which natural gas service has been available for 40 or more years have already reached or are close to such saturation.

Schedule 3

Possible demand on Union Gas Company of Canada, Limited and its subsidiaries for gas for residential uses in the 15 counties in which operations are carried on by the said companies

This schedule assumes that the number of residential meters shown in column 8 of Schedule 2 will be attached to the lines of Union and its subsidiaries.

The average base load consumption per residential meter (column 3) is estimated to become 30 M.C.F. This is based on the current

experience of Union. However, during the early years of this study the average base load consumption is slightly less than 30 M.C.F. because of the recent conversion of certain important markets from manufactured to natural gas where, on a natural gas equivalent basis, the average annual consumption per residential meter for base load purposes was less than 30 M.C.F. It is estimated that by the end of a 10 year period, the average base load consumption of these meters converted from manufactured to natural gas will also be 30 M.C.F.

The estimated average annual space heating consumption per residential meter is based on a consumption of 22 cubic feet per degree day. While there is a variation in the number of degree days as between markets on the Union system the large majority of the customers are in areas where the normal number of degree days per annum is between 6600 and 6700. After making provision for the colder temperatures prevailing in the northern fringe of the market area, the average consumption per residential meter for space heating purposes for the 15 county area is estimated at approximately 148 M.C.F. per annum.

As natural gas has become more plentiful in recent years in the older sections of Union's markets, more and more people have been turning to this type of fuel for their entire space heating requirements. Additional space heating load is constantly being obtained through customers who formerly used gas only for other than space heating purposes, and in addition Union and its subsidiaries are obtaining requests for space heating gas from a high percentage of the new homes being erected in their franchise areas.

On the basis of past experience, given an abundant supply of natural gas which can be offered at rates as competitive as those now prevailing, it is estimated that Union and its subsidiaries will eventually be

serving natural gas to 73% of their customers for their entire space heating requirements.

Based on the assumptions referred to herein, and on the past experience of Union, it is estimated that the future demands on Union and its subsidiaries for natural gas for residential requirements could reach the volumes shown in column 9 of Schedule 3.

Schedule 4

Possible demand on Union Gas Company of Canada, Limited and its subsidiaries for gas for commercial uses in the 15 counties in which operations are carried on by the said companies

The past experience of Union has been that the number of commercial meters on the lines is approximately 10% of the number of residential meters. It is therefore assumed that the number of commercial meters on the lines of Union and its subsidiaries will, with adequate supplies of natural gas available, reach a total of 10% of residential meters and then, because of the number of customers using natural gas for tobacco curing purposes in a few counties, will actually exceed this ratio by a small margin. On this basis, it is estimated that the number of commercial meters to be on the lines of Union and its subsidiaries will be as shown in column 2 of Schedule 4.

The average consumption per commercial meter for other than space heating purposes in counties where natural gas is used extensively for tobacco curing purposes is estimated at 300 M.C.F. per annum, while in all other counties, and based on a study made by Union, such average annual consumption per meter is estimated at 108 M.C.F. The composite average consumption for all 15 counties is as shown in column 3 of Schedule 4. The slight decrease in average consumption per account over the future years is due to the assumption that the number of additional

commercial meters attached for other than tobacco curing purposes will be greater than those installed for such purpose.

As natural gas becomes more plentiful its use for space heating purposes in commercial establishments is increasing. With ample supplies of gas assured and because of the large unsatisfied market for natural gas for such use in many areas, it is anticipated that sales of gas for commercial space heating will be expanded, and that the percentage of commercial customers using gas for their entire space heating requirements will be as shown in column 6 of Schedule 4, resulting in the number of commercial space heating customers on the lines being as shown in column 5 of that schedule.

A study made by Union indicated that the average commercial space heating customer uses approximately 300 M.C.F. per annum for such purpose and that volume has been applied for the purposes of this study.

Based on the assumptions referred to herein and on the past experience of Union, it is estimated that the future demands on Union and its subsidiaries for natural gas for commercial requirements could reach the volumes shown in column 9 of Schedule 4.

Schedule 5

Estimated market for firm industrial gas sales available in 15 counties served by Union Gas Company of Canada, Limited and its subsidiaries

The estimated annual volumes of sales on a firm basis for industrial purposes as shown on Schedule 5 for the years 1959 to 1964 inclusive, are based on the current annual volumes of such sales adjusted to reflect the increasing load as estimated by industrial sales personnel. For 1965 it is estimated that the firm industrial

sales load will increase 3% over the previous year, or by 175,000 M.C.F. For the purpose of this schedule it is assumed that firm industrial sales volume will increase by 175,000 M.C.F. in each year after 1965, which will result in a constantly decreasing percentage increase per annum.

Schedule 6

Estimated volumes of gas required for sales to other
distributing companies, commissions, etc., on a whole-
sale basis for re-sale

Union is currently selling gas on a wholesale basis for re-sale to the following:

Public Utilities Commission of the City of Kitchener
Central Pipeline Company Limited
Beachville Natural Gas Syndicate
United Development Company Limited

In addition, negotiations are being carried on with a view to selling gas to Norotto Gas Company Limited.

Based on existing and pending contracts, the probable population and market growth in the areas served and the reduction in volumes of gas being made available to the above-mentioned companies from other sources, annual volumes of wholesale natural gas sales by Union and its subsidiaries are estimated to be as shown on Schedule 6.

Schedule 7

Possible demand for gas on Union Gas Company of Canada,
Limited and its subsidiaries by all classes of customers
in the 15 counties in which operations are carried on by
the said companies

This schedule is merely a summary of the possible demands on the companies by all classifications of customers and as detailed on Schedules 3, 4, 5 and 6.

Schedule 8

Schedule showing possible annual demands for gas on pipeline system of Union Gas Company of Canada, Limited and its subsidiaries and portion thereof which may be acquired from Trans-Canada Pipe Lines Limited

The possible annual volumes of gas required on the entire system are set out in column 4 of this Schedule 8 and comprise the total sales volume (column 2 as derived from Schedule 7), plus an allowance for company use, unaccounted for, unbilled, etc., gas (column 3).

Column 5 of Schedule 8 shows the estimated volumes of gas to be available to Union and its subsidiaries from other sources, mainly under existing contracts with independent producers and suppliers and from Union's own local production sources. This column 5 also reflects the net changes in volumes of gas placed in and withdrawn from storage as shown on Schedule 9, column 12.

Column 6 of Schedule 8 shows the estimated annual volumes of gas to be received under the January 18, 1955 agreement between Trans-Canada Pipe Lines Limited and Union Gas Company of Canada, Limited, as amended, and as assigned by Union to Ontario Natural Gas Storage and Pipelines Limited on December 2, 1957. The volumes shown are based on the assumption that deliveries of gas under this agreement will be made over the primary term of the agreement estimated to be a period of 20 years commencing November 1, 1959.

Column 7 of Schedule 8 shows the additional volumes of gas required to meet the possible demand as shown in column 4 over and above (a) the volumes estimated to be available from sources other than Trans-Canada as shown in column 5 and (b) the volumes available from Trans-Canada during the primary term of the said agreement of January 18, 1955. It is assumed that these additional volumes of gas will be obtained through

the extension of the term of the January 18, 1955 agreement beyond the primary term thereof (as provided for in the said agreement) and/or through the execution of a further agreement between Trans-Canada and Ontario Natural Gas Storage.

Column 8 of Schedule 8 shows the total volume of gas required from Trans-Canada based on the assumptions made in this schedule.

Schedules 9 and 9A

Schedule showing possible total annual volumes of gas to be required and to be received or produced by Union Gas Company of Canada, Limited and its subsidiaries, and the resultant net change in volume of gas held in underground storage

The details of this schedule are explained, where required, in Schedule 9A, under tab 9.

Schedule 10

Schedule showing maximum sales demand in M.C.F. on peak day, on which the temperature is assumed to be - 5° F., if estimated sales volumes as shown on Schedule 7 are to be met

The notes included on this schedule explain in detail the factors used in arriving at the estimated maximum peak day for sales only (i.e., exclusive of storage gas returned to The Consumers' Gas Company).

While column 14 shows the maximum peak day demand, the hourly demand rate would probably be approximately 20% higher.

Schedule 11

Schedule showing maximum daily demand on system on basis of possible sales demand per Schedule 9, plus maximum demand obligations under agreement of December 20, 1957 between Ontario Natural Gas Storage and Pipelines Limited and The Consumers' Gas Company

Column 4 of this schedule indicates possible peak day demand on the system based on -

- (a) Maximum peak day demand generated by sales as shown in Schedule 9
plus
- (b) Maximum daily delivery obligations under agreement with The Consumers' Gas Company.

In considering the findings shown by the attached schedules the following factors should be kept in mind:

- a. - Union and its subsidiaries do not presently have available, under contract or otherwise, sufficient gas to meet the indicated demand after 1973. However, as the demand actually increases, steps will be taken in an endeavour to acquire the required additional volumes of gas from any available source.
- b. - If the companies are to meet any of the demands in excess of those for which gas is already available, additional volumes of gas must be made available in sufficient quantities to take care of the additional load for a period of at least 20 years. In addition, volumes of gas required to serve the then existing load should be assured for a period of at least 20 years from the date on which additional volumes are required.
- c. - The attainment of the projected volumes of sales is dependent on the retail price of gas in the franchise area maintaining approximately its present competitive position with other fuels and at the same time enabling the distributing companies to earn sufficient to cover all costs of operations

and permit reasonable returns to the investors.

- d. - In arriving at the estimated volume of industrial gas sales, (Schedule 5) only firm sales were considered. However, from surveys made over recent years it is quite apparent that there is a market for interruptible gas sales in the territories served by Union and its subsidiaries. On an annual basis such sales could approximate 40 to 50 billion cubic feet. It is therefore reasonable to assume that the market for such sales during the off-peak period could be 20 to 25 billion cubic feet per annum.
- A very large portion of these sales could only be made at prices approximating the prices to be paid Trans-Canada Pipe Lines Limited for gas by Ontario Storage. In addition, the volumes of gas becoming available to Union and its subsidiaries in future years under existing contracts leave little if any margin for such sales except in the next few years. We also understand that Trans-Canada has little if any capacity remaining in its present facilities to permit it to enter into contracts for the sale of special rate interruptible gas to Ontario Storage. However, for the first few years after Trans-Canada gas becomes available Union and its subsidiaries will probably have a limited amount of gas available to service a portion of the interruptible load.
- e. - Surveys made for Union and its subsidiaries indicate that there is a fairly extensive area north of its present franchise

area which, while marginal at the moment, might in the near future justify the extension of facilities by Union and Ontario Storage to serve. It is estimated that the fifth year sales in this area would approximate 2 billion cubic feet while the ultimate annual sale volume would be 4 billion cubic feet. The total estimated gas requirements of Union and its subsidiaries (Schedule 8, column 4) do not make any provision for the servicing of this load.

III

Underground storage of gas

The utilization of underground gas storage facilities is of considerable convenience and value to companies having such facilities available in close proximity to major markets. Through their use, the operator of the storage is able to purchase supplies of gas during off-peak periods which otherwise would not be available, and to purchase gas on a more economical basis than if deliveries from the supplying company are taken only as required by the ultimate consumer.

Union and its subsidiaries are fortunate in having such underground facilities available and in operation in Lambton County. Through their operations Union has been able to import from the United States during the summer months over the past several years substantial volumes of natural gas which otherwise would not have been available and could not have been marketed by Union in the summer months.

Schedule 12 shows certain particulars of presently operating and potential underground storage areas, as follows:-

- a. - Lines 1 to 5 inclusive, give particulars of four pools presently designated as storage areas, controlled by and in actual use for storage purposes by Ontario Storage.
- b. - Line 6 gives particulars of an additional pool, Waubuno, already designated as a storage area, and owned jointly with Imperial Oil Limited. A considerable volume of gas has already been produced from this pool and it is anticipated that it will be owned solely by Ontario Natural Gas Storage by December of 1959, by which date it will be available for storage purposes.
- c. - Lines 8 and 9 give particulars of two pools owned by Union not yet designated for storage but which will be available for future storage operations. Drilling is continuing in these pools to make them more suitable for storage operations. Only a token amount of gas has as yet been produced from these pools.
- d. - Line 11 shows certain combined statistics of the seven pools already mentioned which are presently being, or which eventually will be, operated by Ontario Storage or Union for storage purposes.
- e. - Lines 12 to 14 inclusive, give particulars of two pools owned by Imperial Oil Limited from which Union is currently purchasing the gas production and which it is considered would be suitable for storage purposes if and when required.

In this Schedule 12, the word "cushion" refers to base pressure gas in underground storage held to maintain operating

wellhead pressure.

For the past few years, Union, and now Ontario Storage, have been operating all underground storage capacity required to store natural gas made available to them. Additional storage capacity will be made available and put into operation by those companies to the extent available as such additional capacity is required.

When deliveries of gas from Trans-Canada Pipe Lines Limited to Ontario Natural are commenced under the terms of the agreement between those two companies, Trans-Canada will obtain direct benefit from the availability of storage through:-

- (i) Having contracted to deliver the larger portion of the gas to be delivered under the said Ontario Natural, Trans-Canada contract during the period April 1 to November 1 in each year, a very large amount of which gas will be placed in underground storage to meet winter peaks;
- (ii) Having the right, with certain limitations, to cease deliveries of gas to Ontario Storage on days of peak demand on the Trans-Canada system, thus making more gas available on such days to other pipeline customers. At such times the demands on Ontario Storage will be met from storage;
- (iii) The Consumers' Gas Company having contracted with Ontario Storage for storage of large volumes of gas to be purchased from Trans-Canada during the summer months.

In addition to the pools listed on Schedule 12, there are other natural gas pools or formations in Southwestern Ontario which

might also be adapted for storage purposes. The two most prominent of such pools are the Seckerton and Corunna, the gas produced from which is currently being purchased by Union. While the combined capacities of these two pools at original pressure was approximately 17 billion cubic feet, because of the fact that oil is being produced with the gas and the pools have not as yet been definitely delineated, the potential efficiency of their operation as storage areas has not as yet been determined.

IV

General Comments

The following general comments and views on matters which it is understood the Commission are specifically considering are now presented:

1. The wisdom or otherwise, from a national point of view, of the sale of firm and interruptible gas to industry

If the sale of gas to industry on a firm or interruptible basis is disregarded, by far the largest demands for natural gas on distribution companies is for space heating purposes. To satisfy this demand it is necessary for the distributors to design their facilities to meet the resultant peak load on the coldest day in the winter and at the same time give adequate service to all customers. This results in high peak conditions with resultant low load factors and increased distribution costs per M.C.F.

If the load factor on the system can be improved there

is a resultant decrease in unit distribution costs with financial benefit to both the consumer and the distributor. One method of increasing the load factor is by supplying industrial gas on a firm basis. This is usually high load factor business, as weather conditions in most cases have little effect on industrial load. While it is true that firm industrial sales increase the winter peaks, nevertheless they do provide a source of revenue in periods when the space heating load does not tax the facilities of the distributor. Such sales also have a levelling effect on the overall load factor. Generally, distributors buy gas from their pipeline suppliers on a demand-commodity rate basis and in such cases the year-round sale of firm industrial gas enables the distributor to obtain a lower average annual price per M.C.F. from the supplier.

The use of natural gas in certain of their operations by some industries is considered essential. Accordingly, the availability of natural gas could have a great bearing on whether or not an industry established itself in the country.

Thus it would appear that the sale of firm industrial gas could result in lower rates to the consumer, improves the load factor and revenues of the distributor, enables the pipeline company to operate its facilities closer to capacity and enables the producer to produce his wells at a more constant flow. In addition, firm industrial gas is usually used for processing or other high priority purposes for which other fuels are unsuitable or not as satisfactory.

For the reasons herein submitted, the sale of firm industrial gas to industry is of benefit to the producer, the pipeline company, the distributor and the consumer and makes possible the utilization of a natural resource in industrial development. It would therefore appear that the sale of natural gas to industry on a firm basis is in the national interest.

The sale of interruptible gas to industry need have no adverse effect on the load factor of the distributor. Actually the sale of such gas by the distributor may greatly improve its load factor and also result in improved load factor for the pipeline company and a more constant flow from the wells of the producer.

As the term implies, "interruptible gas" represents sales of gas to certain customers deliveries of which may be interrupted from time to time in accordance with the terms of the contract covering such sales. It is quite obvious that gas sold on this basis displaces other fuels which may be utilized for the same purpose. The use of gas for such interruptible purposes is therefore usually motivated by convenience of operation and/or the possibility of some reduction in overall costs as compared with the utilization of other available fuels, even for limited periods of time.

Interruptible gas is sold during periods when the demand for firm gas is less than the capacity of the facilities through which the gas is handled. If additional volumes of gas can be delivered through the facilities at such times the incremental cost of handling the added volumes is relatively small as the fixed costs on the system are approximately constant regardless of the volume of gas handled.

Thus the sale of interruptible gas:-

- (a) Enables the distributor to derive additional revenues in off-peak periods through the utilization of otherwise idle capacity, provided that such gas can be sold at a reasonable margin over the commodity cost of such gas to the distributor. It is presupposed, of course, that the annual volumes of gas available to the distributor enables it to make such sales and at the same time meet its entire annual demand.

The additional revenue derived by the distributor from such sales comprises a portion of its utility revenue and tends to enable it to more closely earn its allowable rate of return and/or provide service to all classes of customers at lower rates.

- (b) Enables the transmission company to derive additional revenues in off-peak periods through utilization of otherwise idle capacity. These additional revenues will enable the transmission company to more closely earn a reasonable return on its investment, and/or maintain a selling price to the distributor which will assist the distributor in competing with other fuels, and/or pay a price for gas to the producer commensurate with the risks involved in discovering and producing natural gas and providing the necessary incentive to continue exploration work.

- (c) Enables the producer to sell larger volumes of gas, thus generating needed capital to continue the exploration for additional sources of supply to build up gas reserves required to maintain an assured supply to meet future firm demands.

It is submitted, however, that there must be some relationship between the available proven reserves, the demand for gas to meet firm requirements and the demand for gas for sale on an interruptible basis. As already mentioned, gas is usually sold on an interruptible basis for low-priority or less essential purposes. If the volume of such sales was so great as to jeopardize firm supplies for residential, commercial and industrial purposes, including gas required as feed stock in industrial plants, so that sufficient reserves were not available to meet the firm demand over a long term period, say 25 or 30 years, and the sale of such interruptible gas was not essential to enabling the sale of gas on a firm basis at competitive rates, then large volume sales of interruptible natural gas could be not in the public interest.

To the extent that interruptible gas sales displace other fuels produced in Canada and for which no other markets are available, especially if such interruptible sales are not essential to maintaining an overall competitive rate for firm sales or maintaining adequate long-term proven reserves, then large volume sales of interruptible natural gas could be not in the public interest.

Reference was made earlier in this submission to the effect of the utilization of underground gas storage. The extent to which such storage is available and gas can be delivered therefrom, and the conditions and terms under which the operators of such storage may be able to purchase gas in off-peak periods from the transmission company for injection into storage, must not be overlooked in determining the wisdom of the universal sale of large volumes of interruptible gas. The injection of such gas into underground storage which otherwise would be sold on an interruptible basis, does not affect in any way the operations

or economics of the producer or transmission company, but has the advantage of conserving such gas near the ultimate market for firm sale purposes at times when, because of peak conditions on the transmission line, the gas would not otherwise be available.

Given adequate proven reserves of natural gas and proper conservation of such reserves to assure a long-term supply being available to meet all firm demands, then, for the reasons herein submitted, the sale of natural gas to industry on an interruptible basis is in the national interest.

2. The policies which will best serve the national interest in relation to the export of energy and sources of energy from Canada

The remarks on this topic are confined to the export of natural gas.

It is submitted that, except on a reciprocal basis, no export from Canada should be permitted of natural gas required to meet the demand in Canada over an extended period of time. While it is difficult to determine the period over which the demands of the Canadian market should be protected, it is our opinion that 30 years should be an absolute minimum as it requires at least 20 years' supply to finance the systems required to market gas and the demands will be growing during that period. Thus, it is reasonable to consider that ample gas should always be maintained to meet the Canadian demand for a minimum period of 30 years before export to other countries is permitted.

The export of gas, while obviously depleting the available supply of this commodity, would have the following effect on various segments of the industry:

- (a) Increase the revenues of the producer, thus affording him needed additional capital to continue exploration for and development of additional reserves to meet future demands of the Canadian market. This additional revenue would also tend to enable the producer, through the sale of larger volumes, to operate satisfactorily and earn a reasonable return on his investment at a lesser charge per M.C.F. of gas sold to the pipeline company for use in Canada than would be the case if no revenue were obtained from the export market.
- (b) Increase the volumes of gas handled by the pipeline companies, thus increasing their revenues, although not necessarily their load factors, and enabling them to earn revenues more in line with a reasonable return on their investment and/or;
- (c) Give more assurance that the Canadian distributor customers of the pipeline would be able to purchase their gas requirements at a more reasonable rate, thus making possible lower rates to the consuming public.

Thus, while there are valid reasons supporting both the export and the prohibition of export of gas, it appears that, on balance, some export of natural gas could be considered as being in the national interest, if adequate reserves to meet the Canadian demand are always assured for a period of at least 30 years. In order to provide such assurance it would be necessary to consider each application for authority to export gas or to increase the volume being exported in relation to the remaining Canadian reserves and the potential remaining

Canadian demand at that time, unless the proposed export is predicated on a reciprocal import basis.

3. Problems involved in, and the policies which ought to be applied to, the regulation of the transmission of gas between provinces or from Canada to another country, with particular reference to the regulation of prices or rates to be charged or paid and the financial structure and control of pipeline corporations in relation to the setting of proper prices or charges

Generally speaking, all natural gas distribution organizations in Canada are regulated as regards rates of charges for service rendered, and other matters, by provincial or local regulatory boards or commissions acting in the interests of the consuming public, as well as in the interests of the gas distributing organization.

Two of the greatest problems always under consideration by the gas distributors are the adequacy of available gas supplies over a long-term period and the cost per M.C.F. of such gas. The consuming public are also vitally concerned with each of these problems, as both have a bearing on their comfort and on living costs.

Probably the greatest single annual cost item that any gas distributor has is the cost of gas purchased for re-sale. This cost of gas therefore has a great bearing on whether or not the distributor can sell its product in competition with other fuels and continue to carry on a public service.

As provincial or local regulatory boards or commissions have not power to regulate operations of interprovincial pipelines, it would appear then that some national board or commission should be charged with the responsibility of seeing that a prime fuel, such as natural gas, being transmitted interprovincially for sale throughout most provinces of the

country is, if at all possible, made available to as many residents and business establishments of the country as possible, at a reasonable price. In considering the reasonableness of such price, weight would be given to the fact that the transmission company must be able to earn an appropriate rate of return on its investment after paying the producer for gas to be transmitted through the line a price commensurate with the risks taken by producers in exploring for and developing gas reserves.

Such a board or commission should also have jurisdiction over the rates charged for natural gas being exported from the country in order to assure that consumers of gas in Canada will not be discriminated against through the export of gas at an unnecessarily low price.

In this manner the provincial or local rate fixing authorities could carry out their functions of determining that to the extent possible adequate supplies of gas would be made available to the distributors in the areas under their jurisdiction at prices which were under the scrutiny of a national body. Such a policy, affecting only pipeline companies involved in interprovincial or international operations, would in no way be in conflict with the jurisdiction of provincial or local boards.

A national body such as that contemplated herein might also be given some authority over the proposed financial structures, and changes therein, of pipeline companies operating on an interprovincial or international basis. This jurisdiction, however, might be confined to such matters as the adequacy of financing to enable the completion and proper operation on a sound basis of proposed pipeline projects. In the final analysis the institutional and other lenders and investors, who usually critically scrutinize such projects before investing in any of the securities to be issued therefor, will not risk their funds in a project unless they are convinced that it is a sound investment.

Some uninformed investors might consider the issue of securities bearing the approval of a national commission or board as being in the nature of a governmental guarantee. Further, most if not all of the provinces already have securities commissions to screen and set minimum disclosure regulations governing the sale of securities within their respective provinces.

It would appear that so far as the manner in which pipeline or utility projects are financed is concerned, the interests of the public are protected if the allowable earnings of the company operating the facilities are restricted to a reasonable rate of return, established after consideration of the risks involved in the venture and the returns available from investing in other projects of comparable risk, on the fair value of all plant plus working capital, etc., actually dedicated to the operations being carried on.

All of which is respectfully submitted by:

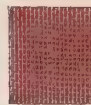
Union Gas Company of Canada, Limited
and its Subsidiaries.



Actual and projected population of the 15 counties in which operations are carried on by Union Gas Company of Canada, Limited and its subsidiaries

Year	Total Population	Actual Annual Growth		Projected Annual Growth	
		Average Total	% over prior year	Total	% over prior year
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
1931	1,054,249 "A"				
1941	1,122,796 "A"	6,855	0.650		
1951	1,392,419 "A"	26,963	2.401		
1956	1,603,407 "A"	42,198	3.030		
1958	1,682,900	39,746	2.478		
1959	1,721,400			38,500	2.287
1960	1,760,700			39,300	2.283
1961	1,801,400			40,700	2.311
1962	1,843,200			41,800	2.320
1963	1,886,100			42,900	2.327
1964	1,930,200			44,100	2.338
1965	1,975,400			45,200	2.341
1966	2,022,000			46,600	2.359
1967	2,068,900			46,900	2.319
1968	2,114,000			45,100	2.179
1969	2,160,400			46,400	2.194
1970	2,207,600			47,200	2.184
1971	2,256,200			48,600	2.201
1972	2,306,000			49,800	2.207
1973	2,356,900			50,900	2.207
1974	2,408,100			51,200	2.172
1975	2,460,800			52,700	2.172
1976	2,514,600			53,800	2.186
1977	2,569,800			55,200	2.195
1978	2,626,300			56,500	2.198
1979	2,684,300			58,000	2.208
1980	2,742,600			58,300	2.171
1981	2,802,400			59,800	2.180
1982	2,863,700			61,300	2.187
1983	2,926,500			62,800	2.192
1984	2,990,900			64,400	2.200
1985	3,056,700			65,800	2.200
1986	3,123,000			66,300	2.169
1987	3,190,600			67,600	2.164
1988	3,259,900			69,300	2.172

Note "A" - Source - 1956 Economic Survey of Ontario.



UNION GAS COMPANY OF CANADA, LIMITED

Schedule 2

Estimated population of, and number of possible residential gas outlets requesting service from Union Gas Company of Canada, Limited and its subsidiaries in, the 15 counties in which operations are carried on by the said companies

Year	Estimated population of entire area (Sched. 1)	Urban population not served by Union or subsidiaries	Rural population not served by Union or subsidiaries	Population served by Union or subsidiaries	Number of families in Union service area based on 3.5 persons per family	Estimated percentage of families in service area requesting gas service from Union or subsidiaries	Estimated number of possible residential gas outlets requesting service from Union or subsidiaries
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
1950	1,721,400	108,200	380,760	1,232,440	349,200	55.097	192,400
1951	1,760,700	110,300	399,650	1,250,750	357,500	57.734	206,400
1961	1,801,400	112,400	408,850	1,280,150	365,700	60.432	221,000
1962	1,843,200	114,600	418,100	1,310,500	374,100	63.138	236,200
1963	1,886,100	116,800	427,700	1,341,600	383,300	65.066	249,400
1964	1,930,200	119,000	437,750	1,373,450	392,300	66.989	262,300
1965	1,975,400	121,300	448,700	1,405,400	401,500	68.567	275,300
1966	2,022,000	123,700	458,150	1,440,150	411,400	70.199	288,800
1967	2,068,900	126,100	469,950	1,472,850	420,700	71.666	301,500
1968	2,114,000	128,600	479,550	1,505,850	430,200	72.780	313,100
1969	2,160,400	131,200	489,550	1,539,650	440,000	73.772	324,600
1970	2,207,600	133,800	499,850	1,573,950	449,700	74.649	335,700
1971	2,256,200	136,400	510,550	1,609,250	459,500	75.408	346,500
1972	2,306,000	139,000	523,000	1,644,000	469,800	76.096	357,500
1973	2,356,900	141,700	533,900	1,681,300	480,200	76.697	368,300
1974	2,408,100	144,400	546,650	1,717,050	490,600	77.313	379,300
1975	2,460,800	147,300	557,600	1,755,900	501,600	78.050	391,500
1976	2,514,600	150,200	570,100	1,794,300	512,700	78.612	403,300
1977	2,569,800	153,200	584,100	1,832,500	523,700	79.358	415,600
1978	2,626,300	156,200	594,600	1,875,500	535,700	79.895	428,000
1979	2,684,300	159,200	608,150	1,916,950	547,500	80.566	441,100
1980	2,742,600	162,300	622,150	1,958,150	559,500	81.108	453,800
1981	2,802,400	165,400	635,800	2,001,200	571,600	81.648	466,700
1982	2,863,700	168,700	648,950	2,046,050	584,600	82.244	480,800
1983	2,926,500	172,000	663,400	2,091,100	597,400	82.926	495,400
1984	2,990,900	175,400	676,950	2,138,550	611,000	83.519	510,300
1985	3,056,700	178,900	692,600	2,185,200	624,300	84.078	524,900
1986	3,123,000	182,500	708,250	2,232,250	637,700	84.601	539,500
1987	3,190,600	186,100	722,850	2,281,650	651,500	85.188	555,000
1988	3,259,900	189,800	738,700	2,331,400	666,100	85.572	570,000



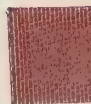


UNION GAS COMPANY OF CANADA, LIMITED

Possible demand on Union Gas Company of Canada, Limited and its subsidiaries
for gas for residential uses in the 15 counties in which operations are
carried on by the said companies

Note: All Volumes shown
are at 14.65 psia

Year ending March 31	Number	Average	Total base load consumption M.M.C.F.	Residential customers		Average	Total residential space heating load M.M.C.F.	Total residential load M.M.C.F.
	of residential meters to be on the lines of Union (Schedule 2)	base load consumption per residential meter M.C.F.		using gas for 100% of space heating requirements	space heating consumption per residential meter M.C.F.			
	<u>1</u>	<u>2</u>		<u>3</u>	<u>4</u>	<u>5</u>		
1959	192,400	27.677	5,314.0	77,005	40.02	147.82	11,383.5	16,697.5
1960	206,400	27.811	5,740.2	89,350	43.29	147.92	13,217.1	18,957.3
1961	221,000	28.009	6,190.0	102,455	46.36	147.99	15,162.4	21,352.4
1962	236,200	28.224	6,666.7	117,175	49.60	148.07	17,350.8	24,017.5
1963	249,400	28.460	7,098.0	131,935	52.90	148.14	19,545.4	26,643.4
1964	262,800	28.704	7,543.5	145,880	55.51	148.23	21,624.4	29,167.9
1965	275,300	28.946	7,969.0	157,640	57.26	148.05	23,339.1	31,308.1
1966	288,800	29.198	8,432.4	170,225	58.94	148.30	25,245.0	33,677.4
1967	301,500	29.454	8,880.6	182,800	60.63	148.32	27,114.7	35,995.3
1968	313,100	29.726	9,307.5	193,500	61.80	147.91	28,620.8	37,928.3
1969	324,600	30.000	9,738.0	204,105	62.87	147.94	30,195.9	39,933.9
1970	335,700	30.000	10,071.0	215,675	64.24	147.95	31,910.9	41,981.9
1971	346,500	30.000	10,395.0	226,490	65.36	147.98	33,516.4	43,911.4
1972	357,500	30.000	10,818.0	236,470	66.14	147.98	34,993.3	45,811.3
1973	368,300	30.000	11,049.0	245,625	66.69	147.98	36,347.7	47,396.7
1974	379,300	30.000	11,379.0	256,120	67.52	147.99	37,903.4	49,282.4
1975	391,500	30.000	11,745.0	264,315	67.52	147.99	39,117.9	50,862.9
1976	403,300	30.000	12,099.0	274,470	68.05	148.01	40,625.7	52,724.7
1977	415,600	30.000	12,468.0	282,950	68.08	148.01	41,882.0	54,350.0
1978	428,000	30.000	12,840.0	295,525	69.04	148.01	43,743.3	56,583.3
1979	441,100	30.000	13,233.0	304,615	69.05	148.02	45,090.0	58,323.0
1980	453,800	30.000	13,614.0	315,840	69.59	148.03	46,754.9	60,368.9
1981	466,700	30.000	14,001.0	324,850	69.60	148.03	48,088.9	62,089.9
1982	480,800	30.000	14,424.0	339,345	70.57	148.03	50,234.9	64,658.9
1983	495,400	30.000	14,862.0	349,710	70.59	148.03	51,770.5	66,632.5
1984	510,300	30.000	15,309.0	362,990	71.13	148.05	53,743.0	69,052.0
1985	524,900	30.000	15,747.0	373,475	71.15	148.05	55,295.9	71,042.9
1986	539,500	30.000	16,185.0	389,170	72.13	148.05	57,620.0	73,805.0
1987	555,000	30.000	16,650.0	402,070	72.44	148.05	59,527.4	76,177.4
1988	570,000	30.000	17,100.0	416,090	73.00	148.06	61,608.1	78,708.1

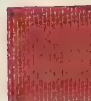


UNION GAS COMPANY OF CANADA, LIMITED

Possible demand on Union Gas Company of Canada, Limited and its subsidiaries
for gas for commercial uses in the 15 counties in which operations are
carried on by the said companies

Note: All volumes shown
are at 14.65 psia.

Year ending March 31	Number of commercial meters to be on lines	Average base load consumption per commercial meter M.C.F.	Total base load consumption M.M.C.F.	Commercial customers using gas for 100% of space heating requirements		Average space heating consumption per commercial meter M.C.F.	Total commercial space heating load M.M.C.F.	Total commercial load M.M.C.F.
				Number	% of Total			
1	2	3	4	5	6	7	8	9
1959	17,185	116.32	1,999.1	5,795	33.72	300.00	1,738.5	3,737.6
1960	18,795	116.32	2,186.3	6,875	36.57	300.00	2,062.5	4,248.8
1961	20,525	116.41	2,389.4	8,075	39.34	300.00	2,422.5	4,811.9
1962	22,350	115.86	2,589.5	9,495	42.48	300.00	2,848.5	5,438.0
1963	24,060	115.42	2,777.1	10,985	45.65	300.00	3,295.5	6,072.6
1964	25,870	115.01	2,975.3	12,645	48.87	300.00	3,793.5	6,768.8
1965	27,585	114.79	3,166.6	14,175	51.38	300.00	4,252.5	7,419.1
1966	29,060	114.53	3,328.5	15,635	53.80	300.00	4,690.5	7,919.0
1967	30,485	114.34	3,485.8	17,145	56.24	300.00	5,143.5	8,629.3
1968	31,655	114.27	3,617.5	18,110	57.21	300.00	5,433.0	9,050.5
1969	32,810	114.14	3,745.0	19,210	58.54	300.00	5,763.0	9,508.0
1970	33,925	114.02	3,868.4	20,270	59.75	300.00	6,081.0	9,949.4
1971	35,010	113.92	3,988.4	21,240	60.66	300.00	6,372.5	10,360.9
1972	36,115	113.81	4,110.6	22,210	61.49	300.00	6,663.0	10,773.6
1973	37,205	113.81	4,234.0	23,395	62.88	300.00	7,018.5	11,252.5
1974	38,310	113.71	4,356.3	24,175	63.10	300.00	7,252.5	11,608.8
1975	39,535	113.60	4,491.3	25,050	63.36	300.00	7,515.5	12,006.8
1976	40,720	113.49	4,621.7	25,910	63.62	300.00	7,773.0	12,394.7
1977	41,960	113.48	4,761.9	27,110	64.60	300.00	8,133.0	12,894.9
1978	43,205	113.39	4,899.4	27,920	64.62	300.00	8,376.0	13,275.4
1979	44,515	113.24	5,040.8	28,885	64.88	300.00	8,620.0	13,660.8
1980	45,800	113.27	5,188.2	29,730	64.91	300.00	8,919.0	14,107.2
1981	47,095	113.19	5,331.1	30,940	65.69	300.00	9,281.5	14,612.6
1982	48,515	113.16	5,490.4	31,870	65.69	300.00	9,561.0	15,051.4
1983	49,980	113.07	5,651.5	32,955	65.93	300.00	9,886.0	15,537.5
1984	51,475	112.97	5,815.5	33,940	65.93	300.00	10,182.0	15,997.5
1985	52,945	112.94	5,980.1	35,330	66.73	300.00	10,598.5	16,578.6
1986	54,410	112.87	6,141.3	36,425	66.94	300.00	10,927.5	17,068.8
1987	55,965	112.79	6,312.5	37,505	67.01	300.00	11,252.0	17,564.5
1988	57,470	112.71	6,477.5	38,505	67.00	300.00	11,551.0	18,028.5

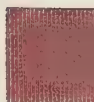


UNION GAS COMPANY OF CANADA, LIMITEDSchedule 5

Estimated market for firm industrial gas sales available
in 15 counties served by Union Gas Company of Canada,
Limited and its subsidiaries

Note:- All volumes shown are at 14.65 p. s. i. a.

Year ending March 31	Estimated volume of <u>firm</u> industrial sales in MMCF	Increase in volume over immediately prior year	
		<u>MMCF</u>	<u>%</u>
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
1959	3,920		
1960	4,455	535	13.64
1961	5,037	582	13.06
1962	5,505	468	9.29
1963	5,646	141	2.56
1964	5,780	134	2.37
1965	5,955	175	3.00
1966	6,130	175	2.93
1967	6,305	175	2.85
1968	6,480	175	2.77
1969	6,655	175	2.70
1970	6,830	175	2.63
1971	7,005	175	2.56
1972	7,180	175	2.50
1973	7,355	175	2.44
1974	7,530	175	2.38
1975	7,705	175	2.32
1976	7,880	175	2.27
1977	8,055	175	2.22
1978	8,230	175	2.17
1979	8,405	175	2.13
1980	8,580	175	2.08
1981	8,755	175	2.03
1982	8,930	175	2.00
1983	9,105	175	1.96
1984	9,280	175	1.92
1985	9,455	175	1.88
1986	9,630	175	1.85
1987	9,805	175	1.82
1988	9,980	175	1.78

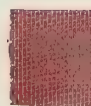


UNION GAS COMPANY OF CANADA, LIMITEDSchedule 6

Estimated volumes of gas required for sales to other
distributing companies, commissions, etc., on a wholesale
basis for resale

Note:- All volumes shown are at 14.73 p.s.i.a.

Year ending March 31	Estimated volume of sales on a wholesale basis to other gas distributors MMCF	Increase in volume over immediately prior year	
		MMCF	%
<u>1</u>	<u>2</u>		
1959	310		
1960	515	205	66.12
1961	775	260	50.48
1962	980	205	26.45
1963	1,131	151	15.40
1964	1,192	61	5.39
1965	1,256	64	5.37
1966	1,316	60	4.77
1967	1,379	63	4.78
1968	1,445	66	4.78
1969	1,514	69	4.78
1970	1,587	73	4.82
1971	1,664	77	4.85
1972	1,744	80	4.81
1973	1,827	83	4.76
1974	1,914	87	4.76
1975	2,006	92	4.81
1976	2,102	96	4.78
1977	2,203	101	4.80
1978	2,308	105	4.76
1979	2,420	112	4.85
1980	2,537	117	4.83
1981	2,659	122	4.81
1982	2,787	128	4.81
1983	2,921	134	4.81
1984	3,062	141	4.82
1985	3,209	147	4.80
1986	3,364	155	4.83
1987	3,526	162	4.82
1988	3,696	170	4.82



UNION GAS COMPANY OF CANADA, LIMITED

Possible demand for gas on Union Gas Company of Canada, Limited and its subsidiaries
by all classes of customers in the 15 counties in which operations are carried on
by the said companies

Year ending March 31	Total Residential Sales M.M.C.F. (Schedule 3)	Total Commercial Sales M.M.C.F. (Schedule 4)	Total firm Industrial Sales M.M.C.F. (Schedule 5)	Total sales for resale M.M.C.F. (Schedule 6)	Total Volume of Sales M.M.C.F.
1	2	3	4	5	6
1959	16,697.5	3,737.6	3,920.0	310.0	24,665.1
1960	18,957.3	4,248.8	4,455.0	515.0	28,176.1
1961	21,352.4	4,811.9	5,037.0	775.0	31,976.3
1962	24,017.5	5,438.0	5,505.0	980.0	35,940.5
1963	26,643.4	6,072.6	5,646.0	1,131.0	39,493.0
1964	29,167.9	6,768.8	5,780.0	1,192.0	42,908.7
1965	31,308.1	7,419.1	5,955.0	1,256.0	45,938.2
1966	33,677.4	7,919.0	6,130.0	1,316.0	49,042.4
1967	35,995.3	8,629.3	6,305.0	1,379.0	52,308.6
1968	37,928.3	9,050.5	6,480.0	1,445.0	54,903.8
1969	39,933.9	9,508.0	6,655.0	1,514.0	57,610.9
1970	41,981.9	9,949.4	6,830.0	1,587.0	60,348.3
1971	43,911.4	10,360.9	7,005.0	1,664.0	62,941.3
1972	45,811.3	10,773.6	7,180.0	1,744.0	65,508.9
1973	47,396.7	11,252.5	7,355.0	1,827.0	67,831.2
1974	49,282.4	11,608.8	7,530.0	1,914.0	70,335.2
1975	50,862.9	12,006.8	7,705.0	2,006.0	72,580.7
1976	52,724.7	12,394.7	7,880.0	2,102.0	75,101.4
1977	54,350.0	12,894.9	8,055.0	2,203.0	77,502.9
1978	56,583.3	13,275.4	8,230.0	2,308.0	80,396.7
1979	58,323.0	13,660.8	8,405.0	2,420.0	82,808.8
1980	60,368.9	14,107.2	8,580.0	2,537.0	85,593.1
1981	62,089.9	14,612.6	8,755.0	2,659.0	88,116.5
1982	64,658.9	15,051.4	8,930.0	2,787.0	91,427.3
1983	66,632.5	15,537.5	9,105.0	2,921.0	94,196.0
1984	69,052.0	15,997.5	9,280.0	3,062.0	97,391.5
1985	71,042.9	16,578.6	9,455.0	3,209.0	100,285.5
1986	73,805.0	17,068.8	9,630.0	3,364.0	103,867.8
1987	76,177.4	17,564.5	9,805.0	3,526.0	107,072.9
1988	78,708.1	18,028.5	9,980.0	3,696.0	110,412.6



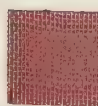
UNION GAS COMPANY OF CANADA, LIMITED

Schedule showing possible annual demands for gas on pipeline system of Union Gas Company of Canada, Limited and its subsidiaries and portion thereof which may be acquired from Trans-Canada Pipe Lines, Limited.

Year ending March 31	Total Volume of Sales M.M.C.F. (Schedule 7)	Company use unaccounted for, unbilled, etc. based on 4% of sales, M.M.C.F.	Total volume of gas required M.M.C.F. (See Note "A")	Volume of gas to be obtained from sources other than Trans- Canada Pipe Lines, Ltd. M.M.C.F. (See Note "B")	Total volume of gas required from Trans-Canada Pipe Lines Limited, M.M.C.F.		
					Under existing contract	Under assumed additional contract	Total
1	2	3	4	5	6	7	8
1959	24,665.1	986.6	25,651.7	25,651.7	-	-	5,100.0
1960	28,176.1	1,127.0	29,303.1	24,203.1	5,100.0	-	16,425.0
1961	31,976.3	1,279.0	33,255.3	16,830.3	16,425.0	-	19,200.0
1962	35,940.5	1,437.6	37,378.1	18,178.1	19,200.0	-	21,975.0
1963	39,493.0	1,579.7	41,072.7	19,097.7	21,975.0	-	24,750.0
1964	42,908.7	1,716.3	44,625.0	19,875.0	24,750.0	-	30,000.0
1965	45,938.2	1,837.5	47,775.7	17,775.7	30,000.0	-	40,000.0
1966	49,042.4	1,961.7	51,004.1	11,004.1	40,000.0	-	46,000.0
1967	52,308.6	2,092.3	54,400.9	8,400.9	46,000.0	-	48,000.0
1968	54,903.8	2,196.1	57,099.9	9,099.9	48,000.0	-	52,000.0
1969	57,610.9	2,304.4	59,915.3	7,915.3	52,000.0	-	55,000.0
1970	60,348.3	2,413.9	62,762.2	7,762.2	55,000.0	-	60,000.0
1971	62,941.3	2,517.6	65,458.9	5,458.9	60,000.0	-	64,000.0
1972	65,508.9	2,620.3	68,129.2	4,129.2	64,000.0	-	64,000.0
1973	67,831.2	2,713.2	70,544.4	6,544.4	64,000.0	-	70,000.0
1974	70,335.2	2,813.4	73,148.6	3,148.6	64,000.0	6,000.0	73,000.0
1975	72,580.7	2,903.2	75,483.9	2,483.9	64,000.0	9,000.0	75,000.0
1976	75,101.4	3,004.0	78,105.4	3,105.4	64,000.0	11,000.0	77,000.0
1977	77,502.9	3,100.1	80,603.0	3,603.0	64,000.0	13,000.0	80,000.0
1978	80,396.7	3,215.2	83,612.6	3,612.6	64,000.0	16,000.0	83,000.0
1979	82,808.8	3,312.4	86,121.2	3,121.2	64,000.0	19,000.0	85,000.0
1980	85,593.1	3,423.7	89,016.8	4,016.8	42,700.0	42,300.0	88,000.0
1981	88,116.5	3,524.6	91,641.1	3,641.1	-	88,000.0	90,000.0
1982	91,427.3	3,657.1	95,084.4	5,084.4	-	90,000.0	94,000.0
1983	94,196.0	3,767.8	97,963.8	3,963.8	-	94,000.0	97,000.0
1984	97,391.5	3,895.7	101,287.2	4,287.2	-	97,000.0	100,000.0
1985	100,285.5	4,011.4	104,296.9	4,296.9	-	100,000.0	104,000.0
1986	103,867.8	4,154.7	108,022.5	4,022.5	-	104,000.0	108,000.0
1987	107,072.9	4,282.3	111,355.8	3,355.8	-	108,000.0	112,000.0
1988	110,412.6	4,416.5	114,829.1	2,829.1	-	112,000.0	

Notes "A" Exclusive of gas required to service Consumers' Gas Company storage agreement and Trans-Canada Pipe Lines Limited gas exchange agreement.

"B" Reflecting net change in volume of gas into or out of storage and exclusive of gas handled under contracts referred to in Note "A".





UNION GAS COMPANY OF CANADA, LIMITED

Schedule 9

Schedule showing possible total annual volumes of gas to be required by and to be received or produced by Union Gas Company of Canada, Limited and its subsidiaries, and the resultant net change in volume of gas held in underground storage - all volumes in M.M.C.F.

Year ending March 31	Volume of gas required to meet annual sales demand per Schedule 8 column 4	Volume of gas to be loaned to Trans-Canada Pipelines Limited under Gas Exchange Agreement (Note "A")	Volume of gas to be delivered to Consumers' under Storage Agreement (Note "B")	Total volume of gas required (1+2+3)	To be produced from Company's own wells (Note "C")	To be purchased under contracts locally (Note "D")	To be imported under Panhandle Agreements (Note "E")	To be received from Consumers' Gas Company for storage under Agreement (Note "F")	To be returned by Trans-Canada Pipe Lines Limited under Exchange Agreement (Note "F")	To be received under Gas Purchase Agreement with Trans- Canada Pipe Lines Ltd. (Note "G")	Total Volume of gas received (5+6+7+8 + 9+10)	Increase or Decrease (-) in Volume of gas in storage	Cumulative net increase or decrease (-) in volume of gas in Storage
	1	2	3	4	5	6	7	8	9	10	11	12	13
1959	25,651.7	6,200.0	3,600.0	35,451.7	4,023.0	12,124.0	11,355.0	4,050.0	760.0	-	32,312.0	(-) 3,139.7	-
1960	29,303.1	-	4,550.0	33,853.1	4,552.0	10,780.0	11,275.0	4,550.0	2,280.0	5,100.0	38,537.0	4,683.9	1,544.2
1961	33,255.3	-	5,620.0	38,875.3	5,281.0	10,172.0	5,500.0	5,620.0	2,280.0	16,425.0	45,278.0	6,402.7	7,946.9
1962	37,378.1	-	6,620.0	43,998.1	4,707.0	9,822.0	5,500.0	6,620.0	1,480.0	19,200.0	47,329.0	3,330.9	11,277.8
1963	41,072.7	-	7,500.0	48,572.7	4,592.0	9,006.0	5,500.0	7,500.0	-	21,975.0	48,573.0	-	-
1964	44,625.0	-	7,500.0	52,125.0	2,877.0	8,320.0	5,500.0	7,500.0	-	24,750.0	48,947.0	(-) 3,178.0	8,099.8
1965	47,775.7	-	7,500.0	55,275.7	2,354.0	4,041.0	5,500.0	7,500.0	-	30,000.0	49,395.0	(-) 5,880.7	2,219.1
1966	51,004.1	-	7,500.0	58,504.1	2,260.0	3,826.0	5,500.0	7,500.0	-	40,000.0	59,086.0	581.9	2,801.0
1967	54,400.9	-	7,500.0	61,900.9	2,171.0	2,386.0	5,500.0	7,500.0	-	46,000.0	63,557.0	1,656.1	4,457.1
1968	57,099.9	-	7,500.0	64,099.9	4,000.0	-	5,500.0	7,500.0	-	48,000.0	65,000.0	900.1	5,357.2
1969	59,915.3	-	7,500.0	67,415.3	3,750.0	-	5,500.0	7,500.0	-	52,000.0	68,750.0	1,334.7	6,691.9
1970	62,762.2	-	7,500.0	70,262.2	3,500.0	-	5,500.0	7,500.0	-	55,000.0	71,500.0	1,237.8	7,929.7
1971	65,458.9	-	7,500.0	72,958.9	3,500.0	-	-	7,500.0	-	60,000.0	71,000.0	(-) 1,958.9	5,970.8
1972	68,129.2	-	7,500.0	75,629.2	3,500.0	-	-	7,500.0	-	64,000.0	75,000.0	(-) 629.2	5,341.6
1973	70,544.4	-	7,500.0	78,044.4	3,500.0	-	-	7,500.0	-	64,000.0	75,000.0	(-) 3,044.4	2,297.2
1974	73,148.6	-	7,500.0	80,648.6	3,500.0	-	-	7,500.0	-	70,000.0	81,000.0	351.4	2,648.6
1975	75,483.9	-	7,500.0	82,983.9	3,500.0	-	-	7,500.0	-	73,000.0	84,000.0	1,016.1	3,664.7
1976	78,105.4	-	7,500.0	85,605.4	3,500.0	-	-	7,500.0	-	75,000.0	86,000.0	394.6	4,059.3
1977	80,603.0	-	7,500.0	88,103.0	3,500.0	-	-	7,500.0	-	77,000.0	88,000.0	(-) 103.0	3,956.3
1978	83,612.6	-	7,500.0	91,112.6	3,500.0	-	-	7,500.0	-	80,000.0	91,000.0	(-) 112.6	3,843.7
1979	86,121.2	-	7,500.0	93,621.2	3,500.0	-	-	7,500.0	-	83,000.0	94,000.0	378.8	4,222.5
1980	89,016.8	-	7,500.0	96,516.8	3,500.0	-	-	7,500.0	-	85,000.0	96,000.0	(-) 516.8	3,705.7
1981	91,641.1	-	7,500.0	99,141.1	3,500.0	-	-	7,500.0	-	88,000.0	99,000.0	(-) 141.1	3,564.6
1982	95,084.4	-	7,500.0	102,584.4	3,500.0	-	-	7,500.0	-	90,000.0	101,000.0	(-) 1,584.4	1,980.2
1983	97,963.8	-	7,500.0	105,463.8	3,500.0	-	-	7,500.0	-	94,000.0	105,000.0	(-) 463.8	1,516.4
1984	101,287.2	-	7,500.0	108,787.2	3,500.0	-	-	7,500.0	-	97,000.0	108,000.0	(-) 787.2	729.2
1985	104,296.9	-	7,500.0	111,796.9	3,500.0	-	-	7,500.0	-	100,000.0	111,000.0	(-) 796.9	67.7
1986	108,022.5	-	7,500.0	115,522.5	3,500.0	-	-	7,500.0	-	104,000.0	115,000.0	(-) 522.5	590.2
1987	111,355.8	-	7,500.0	118,855.8	3,500.0	-	-	7,500.0	-	108,000.0	119,000.0	(-) 144.2	446.0
1988	114,829.1	-	7,500.0	122,329.1	3,500.0	-	-	7,500.0	-	112,000.0	123,000.0	670.9	224.9

See notes attached as Schedule 9A.

Notes to Schedule 9

- Note A - Assuming deliveries of gas to Trans-Canada Pipe Lines Limited under this agreement are discontinued after November, 1958.
- B - Assuming agreement with Consumers' Gas Company is extended for a further period after its expiry on March 31, 1978.
- C - Assuming additional volumes of gas will be discovered locally to permit continuance of deliveries on basis shown after present local reserves of 13⁴ billion cubic feet owned and under contract have been disposed of.
- D - Assuming receipts of gas under April 21, 1954 contract with Panhandle Eastern Pipe Line Company are discontinued as of November 1, 1959.
- E - 1959 volume includes return of 450 MMCF loaned to Consumers' Gas Company in previous year.
- F - Assuming gas delivered to Trans-Canada Pipe Lines Limited is returned over 36 month period commencing December, 1958.
- G - Assuming deliveries of gas under Trans-Canada Pipe Lines Limited gas purchase agreement commence on November 1, 1959, and are increased and extended beyond the primary term of the agreement as referred to in Schedule 8.

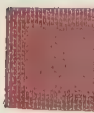


UNION GAS COMPANY OF CANADA, LIMITED

Schedule showing maximum sales demand in M.C.F. on peak day, on which the temperature is assumed to be -5°F. , if estimated sales volume as shown on schedule 7 is to be met.

Fiscal year to March 31	Base Load					Space Heating				Wholesale Customers Additional Peak M.C.F.	Company use etc. Additional Peak M.C.F.	Additional Peak added M.C.F.	Maximum Peak day Sales only M.C.F.
	Residential		Commercial		Industrial Peak M.C.F.	Residential		Commercial					
	Additional	Additional	Additional	Additional		Additional	Additional						
	Accounts	Peak	Accounts	Peak		Accounts	Peak	Accounts	Peak				
		M.C.F.		M.C.F.			M.C.F.		M.C.F.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1959	192,400	19,240	17,185	6,874	15,680	77,005	118,588	5,795	17,849	2,246	5,406	185,883	185,883
1960	14,000	1,400	1,610	644	2,140	12,345	19,011	1,080	3,326	1,680	769	28,970	214,853
1961	14,600	1,460	1,730	692	2,328	13,105	20,182	1,200	3,696	2,038	833	31,229	246,082
1962	15,200	1,520	1,825	730	1,872	14,720	22,669	1,420	4,374	1,664	869	33,698	279,760
1963	13,200	1,320	1,710	684	564	14,760	22,730	1,490	4,589	1,299	779	31,965	311,745
1968	63,700	6,370	7,595	3,038	3,336	61,565	94,810	7,125	21,945	2,850	3,377	135,726	447,471
1973	55,200	5,520	5,550	2,220	3,500	52,125	80,272	5,285	16,278	3,345	2,833	113,968	561,439
1978	59,700	5,970	6,000	2,400	3,500	49,900	76,846	4,525	13,937	4,138	2,754	109,545	670,984
1983	67,400	6,740	6,775	2,710	3,500	54,185	83,445	5,035	15,508	5,273	3,024	120,200	791,184
1988	74,600	7,460	7,490	2,996	3,500	66,380	102,225	5,550	17,093	6,757	3,554	143,585	934,769

- Column 2 - As per schedule 3.
 " 3 - Based on average daily peak of 100 cu. ft. per account.
 " 4 - As per schedule 4.
 " 5 - Based on average daily peak of 400 cu. ft. per account.
 " 6 - Based on industrial consumption being spread over 50 five day weeks, i.e. 250 days.
 " 7 - As per schedule 3.
 " 8 - Based on consumption of 22 cubic feet per degree day at $-5^{\circ}\text{F.} = 70 \times 22 \text{ cu. ft.} = 1,540 \text{ cu. ft. per day.}$
 " 9 - As per schedule 4.
 " 10 - Based on consumption of 44 cu. ft. per degree day at $-5^{\circ}\text{F.} = 70 \times 44 \text{ cu. ft.} = 3,080 \text{ cu. ft. per day.}$
 " 11 - Based on same load characteristics as for direct sales.
 " 12 - Peak day estimated at $\frac{2}{365}$ of annual volume as shown on Schedule 8, Column 3.





Schedule showing maximum daily demand on system on basis of possible sales demand per Schedule 9, plus maximum demand obligation under agreement of December 20th, 1957, between Ontario Natural Gas Storage and Pipelines, Limited, and The Consumers' Gas Company

Year ending March 31	Maximum peak day sales only per schedule 9	Maximum day obligation under Ontario Storage Co.- Consumers' Gas Agreement	Possible peak day on system
	MCF	MCF	MCF
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
1959	185,883	70,000 (A)	255,883
1960	214,853	77,000	291,853
1961	246,082	102,000	348,082
1962	279,780	125,000	404,780
1963	311,745	125,000	436,745
1968	447,471	125,000	572,471
1973	561,439	125,000	686,439
1978	670,984	125,000	795,984
1983	791,184	125,000	916,184
1988	934,769	125,000	1,059,769

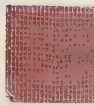
Note A. Although Agreement of December 20, 1957, provides for maximum daily redelivery to Consumers' of 52,000 M.C.F., Ontario Natural Gas Storage has verbally obligated itself, at request of Consumers', to increase the maximum day for the contract year ending March 31, 1959 only, to 70,000 M.C.F.



UNION GAS COMPANY OF CANADA, LIMITED

Particulars of presently operated and certain potential gas storage pools

	Total capacity of pool	"Cushion" pressure	Volume of gas in "cushion"	Volume of working storage capacity	Maximum pressure at capacity	Proposed number of wells at completion	Daily deliverability of pools		Acreage in pool
	MMCF	p.s.i.g.	MMCF	MMCF	p.s.i.g.		At maximum pressure	At "cushion" pressure	
	1	2	3	4	5	6	7	8	9
Pools presently designated, controlled and operated for storage purposes by Ontario Natural Gas Storage and Pipelines Limited									
1 - Dawn #59-85 Pool	9,170	550	5,376	3,794	900	4	287	179	450
2 - Dawn #47-49 Pool	5,426	350	2,075	3,351	865	6	40	9	525
3 - Payne Pool	19,736	350	7,421	12,315	877	8	226	68	750
4 - Dawn #1 Pool	1,208	200	477	731	500	6	2	0.5	3,100
5 - Total lines 1 to 4 inclusive	35,540		15,349	20,191			555	256.5	
Pool presently designated, owned jointly with Imperial Oil Limited but to be acquired by Ontario Natural Gas Storage and Pipelines Limited									
6 - Waubuno Pool	9,346	350	3,248	6,098	935	6	95	26	500
7 - Total lines 5 and 6	44,886		18,597	26,289			650	282.5	
Gas pools owned by Union not yet designated for storage but which will be available for future storage operations									
8 - Dawn #156 Pool	10,259	550	6,090	4,169	878	7	200	120	1,800
9 - Dawn #167 Pool	5,127	400	2,079	3,048	908	4	33	13	1,040
10 - Total lines 8 and 9	15,386		8,169	7,217	1,786		233	133	
11 - Total lines 7 and 10	60,272		26,766	33,506			883	415.5	
Gas pools owned by Imperial Oil Limited considered to be good potential storage areas									
12 - Kimball - Colinvill Pool	45,646	420	21,346	24,300	856	28	260	64	2,850
13 - Bickford Pool	19,069	350	7,627	11,442	928	7	148	48	900
14 - Total lines 12 and 13	64,715		28,973	35,742			408	112	
15 - Grand total	124,987		55,739	69,248			1,291	527.5	





MAP OF SOUTHWESTERN ONTARIO

SHOWING FACILITIES OF
UNION GAS COMPANY OF CANADA, LIMITED
AND ITS SUBSIDIARY COMPANIES
AS AT MARCH 31, 1958

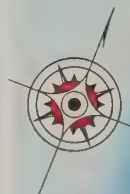
LEGEND

Pipeline Systems

- Union Gas Company of Canada, Limited
- Dominion Natural Gas Company Limited system acquired by Union Gas Company on April 15, 1958
- Ontario Natural Gas Storage and Pipelines Limited
- United Gas Limited and United Suburban Gas Company, Limited
- (proposed pipelines are shown as broken lines in the appropriate color)
- Gas Storage Fields

Facilities of Trans-Canada Pipe Lines Limited and
Niagara Gas Transmission Limited

- Existing Pipelines
- - - - - Proposed Pipelines



SYSTEM MAP



